CLAIMS IN CURRENT FORM

(COMPLIANT WITH THE REVISION TO 37 CFR 1.121)

1. (PREVIOUSLY PRESENTED) A device comprising:

a one-piece outer portion consisting of an electrically insulative material and having dimensions effective to prevent or inhibit plasma arcing to an electrically conductive surface of an aperture through a wall of a plasma processing chamber, said one-piece outer portion further comprising:

(i) a flange section configured to remain outside of said wall;

(ii) a lower section having a shape approximate said aperture to fit into said aperture; and

(iii) an inner opening communicating through the electrically insulative material between a bottom and a top of the outer portion.

2. (ORIGINAL) A plasma processing chamber having:

at least one aperture therein, the at least one aperture having an exposed electrically conductive surface, and

the device of Claim 1, located inside the aperture.

3. (ORIGINAL) A method of making a plasma processing chamber, the chamber having at least one aperture therein, the at

least one aperture having an exposed electrically conductive surface, the method comprising inserting the device of Claim 1 into the aperture.

4. (PREVIOUSLY PRESENTED) A method of processing a workpiece, comprising the following steps:

(A) exposing the workpiece to a plasma in the plasma processing chamber of Claim 2; and

(B) transmitting a signal through the device out from the plasma processing chamber.

5. (PREVIOUSLY PRESENTED) A plasma processing chamber having:

a wall;

at least one aperture through said wall, the at least one aperture having an exposed electrically conductive surface, and

a one-piece sleeve inside the aperture, the one-piece sleeve consisting of an electrically insulative material and having:

(i) dimensions effective to prevent or inhibit plasma arcing to the exposed electrically conductive surface of the aperture;

(ii) a flange section configured to remain outside said wall;

(iii) a lower section having a shape approximate said aperture to fit into said aperture; and

(iv) an inner opening communicating through the electrically insulative material from a bottom to a top of the one-piece sleeve.

6. (PREVIOUSLY PRESENTED) A method of making a plasma processing chamber having a wall, the method comprising:

(A) forming at least one aperture through said wall, the at least one aperture having an exposed electrically conductive surface; and

(B) inserting a one-piece sleeve into the aperture, the one-piece sleeve consisting of an electrically insulative material and having:

(i) dimensions effective to prevent or inhibit plasma arcing to the exposed electrically conductive surface of the aperture;

(ii) a flange section configured to remain outside said wall;

(iii) a lower section having a shape approximate said aperture to fit into said aperture; and

(iv) an inner opening communicating through the electrically insulative material between a bottom and a top of the one-piece sleeve.

7. (PREVIOUSLY PRESENTED) The method of Claim 6, further comprising, prior to inserting said one-piece sleeve, the step of forming said bottom of said one-piece sleeve to a plane having a non-orthogonal angle relative to said inner opening.

8. (PREVIOUSLY PRESENTED) A method of processing a workpiece, comprising:

(A) exposing the workpiece to a plasma in a chamber, the chamber having (1) a wall, (2) an aperture having an exposed electrically conductive surface through said wall, and (3) a one-piece sleeve in the aperture, the one-piece sleeve consisting of an electrically insulative material and having:

(i) dimensions effective to prevent or inhibit plasma arcing to the exposed electrically conductive surface of the aperture,

(ii) a flange section configured to remain outside said wall,

(iii) a lower section having a shape approximate a width of said aperture to fit into said aperture; and

(iv) an inner opening communicating through the electrically insulative material between a bottom and a top of the one-piece sleeve; and

(B) transmitting a signal through the one-piece sleeve out from the chamber.

9. (ORIGINAL) A method of operating a plasma processing chamber, wherein the chamber has at least one aperture therein and the aperture has an exposed electrically conductive surface, the method comprising the steps of:

(A) initiating a plasma in the chamber, the aperture having the device of Claim 1 therein, then

(B) cleaning the chamber and the device.

10. (ORIGINAL) The method of Claim 9, wherein said plasma exists in said chamber for a predetermined period of time.

11. (PREVIOUSLY PRESENTED) The method of Claim 9, further comprising, prior to step B, the steps of:

exposing a workpiece to the plasma, and

transmitting a spectroscopic signal through the device indicating an etching endpoint.

12. (PREVIOUSLY PRESENTED) The device according to claim 1, wherein

said flange section has a width that is greater than a corresponding width of said aperture.

13. (PREVIOUSLY PRESENTED) The device according to claim 12, wherein said device applies a predetermined amount of pressure against an inner wall of said aperture.

14. (PREVIOUSLY PRESENTED) The device according to claim 12, wherein said lower section has a first length and said flange section has a second length.

15. (PREVIOUSLY PRESENTED) The device according to claim 14, wherein said first length is greater than a length of said aperture.

16. (PREVIOUSLY PRESENTED) The device according to claim 1, wherein an outer surface of said device forms an angle with reference to the bottom of said device.

17. (ORIGINAL) The device according to claim 16, wherein said angle is non-orthogonal.

18. (PREVIOUSLY PRESENTED) The device according to claim 1, wherein said inner opening transfers a spectroscopic endpoint detection signal.

19. (ORIGINAL) The plasma processing chamber of claim 2, wherein said at least one aperture comprises an endpoint detection channel.

20. (ORIGINAL) The device according to claim 1, wherein the electrically insulative material is selected from the group consisting of ceramics, multi-crystal ceramics, polyvinyl polymers, polytetrafluoroethylene, polyethylene, polypropylene, polyimides, polycarbonates and single crystal insulative minerals.